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FM AMEMBASSY BERLIN
TO RUEHC/SECSTATE WASHDC PRIORITY 4436
INFO RUEHZN/ENVIRONMENT SCIENCE AND TECHNOLOGY COLLECTIVE
RUCNFRG/FRG COLLECTIVE
RUEHBJ/AMEMBASSY BEIJING 1029
RUEHMO/AMEMBASSY MOSCOW 2058
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RUCUSTR/USSTRATCOM OFFUTT AFB NE

UNCLAS SECTION 01 OF 03 BERLIN 000765

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E.O. 12958: N/A
TAGS: ETTC PGOV PINR MCAP PREL TSPA IT RS CH GM
SUBJECT: ASTRIUM GERMANY PLANS TO CORNER WORLD SPACE RADAR MARKET; PITCHES TO USG

REF: A. BERLIN 601
¶B. BERLIN 561
¶C. BERLIN 181
¶D. 08 BERLIN 1575
¶E. 08 BERLIN 1537

¶1. (SBU) SUMMARY: EADS Astrium Friedrichshafen and their daughter company, Infoterra GmbH, are actively marketing their space-based Synthetic Aperture Radar (SAR) imagery, imagery derived products, and even complete spacecraft to the US market with the strategic goal of securing funding to develop their next generation programs. Astrium, in collaboration with Infoterra, are confident their commercial space-based radar market niche will offer superior value to potential US customers and are taking calculated steps to capture US market share. Astrium's ultimate goal is to corner the world commercial space-based radar market. END SUMMARY

BACKGROUND

¶2. (SBU) On May 29, Mr. Thomas Walati from Astrium Friedrichshafen, an exclusively German portion of the pan-European company EADS, along with Mr. Joerg Herrmann, CEO of Infoterra GmbH, visited the US Embassy in Berlin to meet with Embassy staff and visitors from the US based RAND Corporation. The purpose of the meeting was to brief RAND on the German satellite industry in support of a study that RAND is compiling for USAF customers (USAF/A3/5 and USAF/A30-S), entitled "Leveraging US Allied Space Capabilities." While RAND was in a listening mode for this meeting, Walati and Herrmann utilized this opportunity to plug their product offerings with the knowledge that the USAF would be an indirect audience.

ASTRIUM BUILDS THE SATELLITES; INFOTERRA SELLS THE DATA

¶3. (SBU) Infoterra GmbH was created in 2001 as subsidiary of Astrium Friedrichshafen as part of Astrium Services, and is the exclusive distributor of data product from Astrium's TerraSAR-X program. Astrium developed TerraSAR-X in a Public Private Partnership (PPP) with the German Space Agency (DLR), where both parties have 50/50 rights to the data and share

development costs/risks. Herrmann said due to the commercial success of this program, Astrium/Infoterra are in a position to forego the PPP arrangement for future systems. Astrium plans to launch a sister satellite to TerraSAR-X, called TanDEM-X, in October 2009 and is in advanced design/development stages of a series of next generation space-based SAR systems. As these systems come online, Infoterra will handle all data marketing/distribution.

ASTRIUM'S SPACE-BASED RADAR DEVELOPMENT PLAN

¶4. (SBU) Astrium is pursuing three primary market segments for their future space-based remote sensing projects: 1) defense, 2) commercial data exports, and 3) the export of complete spacecraft. To make this vision a reality, Astrium is developing the following next-generation SAR systems: SCOUT-SAR, SCOUT-HRWS, Full Digital Beam Forming SCOUT, and TerraSAR-NG. Astrium says the next generation of SAR satellites will also address customer demands for future wideband SAR -- something that the current TerraSAR-X technology lacks. (COMMENT: Astrium's TerraSAR-X data has been evaluated by the NGA and is certified to Level II Digital Terrain Elevation Data (DTED) standard. END COMMENT) Herrmann said beginning with the TanDEM-X mission, Astrium's expectation is to meet DTED Level III.

¶5. (SBU) According to documentation provided by Walati, the base SCOUT system uses a wide-band, active phased array SAR. The core idea is to improve resolution and agility, while lowering the cost. The primary driving force pushing SCOUT

development is increased competition in the commercial SAR arena, particularly from the Italian COSMOS SkyMED SAR system. SCOUT's technology improvements leverage the TerraSAR-X design, simplify the design, use more robust integration, and use standardized components.

¶6. (SBU) Astrium said the SCOUT-SAR system technology will be ready by 2010 and will feature significant improvements in resolution and agility over TerraSAR-X. To improve agility and zoom capabilities, SCOUT-SAR will integrate wide-band electronic beam steering. The SCOUT-SAR system resolution is expected to be as follows:

MODE	Resolution	Area
Spotlight	0.5 meter	10 km area
Strip Map	1-2 meter	25 km swath width
Digital Beam Forming	5 meter	100 km swath width

¶7. (SBU) The SCOUT-High Resolution Wide Swath (HRWS) system will build on SCOUT-SAR capabilities by integrating the Astrium-patented Digital Beam Forming (DBF) capabilities that Astrium anticipates will be ready by 2012. Astrium said DBF will enable a new High Resolution Overview Mode (HROM). Astrium expects the following resolutions in HROM mode:

Resolution	Area
1 meter	100 km swath width
4 meter	250 km swath width

¶8. (SBU) TerraSAR-New Generation (NG) will be based on the SCOUT model, but with superior features. TerraSAR-NG will have an enhanced HRWS capability, which, in combination with DBF technology, Astrium anticipates will enable resolutions in the 50 cm range. Herrmann said Astrium also plans on incorporating thermal infrared sensors in the TerraSAR-NG payload, with expected resolution in the range of 20-50 meters. Herrmann said Astrium expects that the ability to provide thermal signatures with SAR data will be a valuable

commodity to future customers. The anticipated release date of this technology is 2012.

¶9. (SBU) Full Digital Beam Forming SCOUT will build on SCOUT-HRWS, focusing on further resolution, image size, and sensitivity improvements. In addition, this system will incorporate moving target detection and multi-target capabilities. Astrium expects this technology to be ready in ¶2020.

THE SALES PITCH

¶10. (SBU) For Walati and Herrmann, this meeting represented an opportunity to market their products, something that they will take every opportunity to do. Herrmann said Infoterra could offer US customers access to their data based on a subscription to a fixed percentage of spacecraft data storage capacity. For the USG, Herrmann said this percentage could be up to 30 per cent. (COMMENT: Herrmann did not mention anything about how tasking priority among customers would be handled. END COMMENT)

¶11. (SBU) Walati's presentation offered complete TerraSAR-X spacecraft capability, including ground segment, to US customers. He said Astrium's Rough Order of Magnitude (ROM) price for a single TerraSAR-X spacecraft is 100 million euro. The ground segment, he said, would cost an additional 50 million euro. Anticipating potential political concerns, Walati offered that Astrium has flexibility in how/where the satellite could be built. For example, he said the bus could be built by a US company and the satellite(s) could be integrated in the US. Walati also floated the idea of a potential joint US/German TerraSAR-equivalent constellation as a way to share costs and at the same time obtain higher revisit rates.

RUSSIA AND CHINA INTERESTED IN TERRASAR-X

¶12. (SBU) Walati said the Russians and Chinese have expressed interest in procuring TerraSAR-X systems, but Astrium is apprehensive about selling to the Russians and any sale to the Chinese is "not likely to happen." He suggested that a sale to Russia is definitely a possibility, but that the systems would be of a lower resolution -- on the order of three meters. He said intellectual property rights concerns are primary reasons for their lack of interest in a sale to the Chinese.

ITALY VIEWED AS THE MAIN COMPETITION

¶13. (SBU) Walati said Astrium views the Italian Telespazio-built COSMOS-SkyMed SAR system as their primary competition and that it could stymie Astrium's bid on the next SAR-Lupe contract. (COMMENT: SAR-Lupe is a 5-satellite SAR constellation developed by the German firm OHB Systems for the German military. This system is scheduled for re-bid in 2013. END COMMENT) Walati fears that the planned European Multinational Space-Based Imaging System (MUSIS), a consortium consisting of Belgium, Germany, France, Italy, Spain, and Greece under coordination of the European Defense Agency (EDA), will incorporate COSMOS-SkyMed for political reasons. Walati is concerned that MUSIS could potentially fill Germany's military need for space-based SAR, obviating the need for a follow-on SAR-Lupe system. (COMMENT: We do not expect that Germany would opt for an inferior foreign system over an indigenous German SAR system. We consider it unlikely that MUSIS would have any serious effect on the next SAR-Lupe contract. END COMMENT)

COMMENT

¶14. (SBU) Astrium is aggressively marketing their products, but are likely limiting their intended customer target to the EU and the US market for now. The motivation for inking customers in the near term is to ensure that funding is secured for their down stream projects, as they want to get away from the PPP paradigms. Astrium presented a chart depicting 25 countries that have they assess have plans to develop/acquire a space-based SAR capability. Astrium clearly sees the business opportunities in the 5-10 year horizon and want to ensure that they are the undisputed commercial market leader in space-based SAR.

¶15. (SBU) For further technical information regarding the above-mentioned Astrium SAR systems, please contact Shane M. Petersen, Email: PetersenSM@state.gov; SIPRNET: PetersenSM@state.sgov.gov.
Koenig